REMARKS/ARGUMENTS

Claims 1-27 are pending in this application. Claims 2-7 and 9-27 are withdrawn. Claims 1 and 8 are rejected. New claim 28 is added, supported at least at page 20, beginning at line 14.

Applicants have amended claims 1, 8, and 11.

The Examiner states that the applicants have not specifically traversed the restriction requirement between the compound and method of use claims. Applicants respectfully disagree and reaffirm the traverse. From a three way restriction by the Examiner, applicants elected Group I, claims 1-10, drawn to azide-substituted receptor-compound conjugates, stated that the restriction was improper, and provided reasons to support their traverse. Furthermore, applicants further submit that claim 1 reciting the compound is linked to method claim 11 which recites a procedure to use the compound. This is analogous to "a claim to the product linking a processing of making and a use (process of using)" as stated in MPEP 809.03(D). Thus, applicants respectfully assert that claims 1 and 11 are linked, hence, the restriction is improper. Applicants also respectfully assert that the full scope of the claimed epitopes be examined, because the Examiner has not cited references which anticipate or render E obvious.

Applicants also acknowledge Examiner's statement that the compound and method claims may be rejoined if they are within the same scope.

For convenience, applicants have used the paragraph numbering employed by the Examiner in the Office Action.

REJECTIONS UNDER 35 U.S.C. §112

6) Claims 1 and 8 are rejected under 35 U.S.C. §112 ¶2 as being indefinite. Applicants respectfully disagree.

6a) It is the Examiner's position that the term "derived from...phenanthridines" because it "does not adequately specify the minimum required structure nor the nature and number of other substituents and/or multiple rings which may be implied by the plural designation". The Examiner also states that the definition of Ar, as stated in the applicants' amendment dated March 10, 2003 refers to the family of compounds and that there is no definition of family in the specification. Applicants respectfully disagree.

Claims 1 and 8 recite that Ar is a heteroaromatic radical derived from...phenanthridines. One of ordinary skill in the art would understand that the phrase "a heteroaromatic radical derived from phenanthridine" means that any one of the nine hydrogens in the parent compound, phenanthridine, is removed to give a phenanthridinyl radical which is then substituted by functional groups (e.g., methyl, ethyl) other than hydrogen in this position. Therefore, the definition of Ar as a group is accurate, and relates to the elements recited in the claims. For example, benzene will form benzyl radicals, pyrroles will form pyrroly radicals, etc.

6b) It is also the Examiner's position that the term "E" defined as "somatostatin receptor binding molecules" is unclear. Applicants respectfully disagree.

Applicants respectfully assert that the phrase "somatostatin receptor binding molecules" is definite. A person of ordinary skill in the art would understand the phrase to mean those molecules that share a common epitope with the native protein, i.e., somatostatin. The molecules that bind to somatostatin receptors are topologically

similar to the binding region of somatostatin. Thus, any molecule that would target and bind the formula to a somatostatin receptor (i.e., that shares a common epitope with somatotstain) is included.

6c) It is further the Examiner's position that the structure of the compounds of formula E-L-Ar-X-N_3 is unclear because there is no indication of where L and X connect to E. Applicants respectfully disagree.

The formula, E-L-Ar-X-N_3, represents an ensemble of various elements necessary to deliver the Type 1 phototherapeutic agent of the invention, viz., the azide moiety, to somatostatin-receptor bearing cells, such as cancer cells. There are numerous ways of preparing bifunctional molecules, commonly referred to as bioconjugates, and these are known to one skilled in the art. Applicants respectfully assert that the bond-to-bond attachment of these individual elements is not required to supply definiteness; the claims recite that the epitope is bonded to the linker L and thus is not bonded to the azide, or the heteroaromatic radical, or to the linker X; the linker L is bonded both to the epitope and the heteroaromatic radical, etc. Thus, applicants respectfully asserts that the rejection is improper.

6d) Applicants have amended claim 8 to recite that Ar is a heteroaromatic radical derived from phenanthrines.

Therefore, for at least the reasons above, applicants respectfully request that the rejection of claims 1 and 8 as being indefinite be withdrawn.

7) Claims 1 and 8 are rejected under 35 U.S.C. § 112, first paragraph, as not being enabled.

It is the Examiner's position that "it is not clear that the somatostatin receptor binding molecule has the requisite amine group necessary for reaction nor how such an amine group would be introduced into the somatostatin receptor binding molecule". Applicants respectfully disagree.

Somatostatin and its truncated peptide, octreotide, have a free amino group at the N-terminus. The amino groups can be readily attached to the -NHS moiety. As analyzed previously, there are numerous ways of making bifunctional molecules, commonly referred to as bioconjugates, that are known to one skilled in the art. The most common method of forming these molecules is through the formation of amide, urea, or thiourea bond between the carrier (e.g., somatostatin receptor binding molecules) and the effector molecule (e.g., the phototherapeutic agent). A person of ordinary skill in the art would recognize the type of functional groups present in the carrier and effector molecules and use the necessary chemical techniques to prepare the bioconjugates of the present invention.

8) Claims 1 and 8 are rejected under 35 U.S.C. § 112, first paragraph, as not being enabled.

It is the Examiner's position that "there is no enablement for how to prepare any compound other than through the intermediate compound depicted in Figure 6 ...". Applicants respectfully disagree for the same reasons as analyzed in responding to paragraph 6c.

In conclusion, applicants respectfully request that the rejections under 35 U.S.C. § 112, first and second paragraphs, for at least the above reasons, be withdrawn.

REJECTIONS UNDER 35 U.S.C. §102

10) Claim 1 is rejected under 35 U.S.C. §102 (b) as anticipated by Graves, Yielding, and Ito. Applicants respectfully disagree.

Applicants have amended claim 1 so that E is a receptor-binding group. Graves, Yielding, and Ito do not disclose the claimed receptor binding molecules that are linked to an organic azide compound.

Thus, applicants respectfully assert that each of Graves, Yielding, and Ito do not anticipate applicants' invention and request that the rejection be withdrawn.

REJECTIONS UNDER 35 U.S.C. §103(a)

12) Claims 1 and 8 are rejected under 35 U.S.C. §103 (a) as obvious over Molecular Diagnostics in combination with admitted prior art.

Applicants respectfully disagree with the Examiner's characterization of portions of applicants' description as "prior art". Applicants have listed examples of biomolecules; applicants have not cited prior art.

It is also the Examiner's position that it would have been obvious to substitute somatostatin and a somatostatin receptor targeting combination for the ligand/receptor biotin in the conjugate of Molecular Diagnostics (EP 187,332). Applicants respectfully disagree.

Applicants respectfully assert that a prima facie case of obviousness has not been made. There is no suggestion, motivation, or teaching in Molecular Diagnostics to be combined with somatostatin receptor binding molecules, to achieve

applicants' claimed azide bioconjugate. Applicants also reassert their disagreement with the characterization of "admitted prior art", and assert that the use of a somatostatin-binding compound with the claimed formula is inventive.

Further, Molecular Diagnostics does not use biotin for targeting purposes but uses it for labeling or detecting a nucleic acid in a sample. For the above reasons, applicants assert that the claims are not obvious over Molecular Diagnostic combined with the prior art.

13) Claims 1 and 8 are rejected under 35 U.S.C. § 103 as obvious over Cryopharm in combination with Pelegrin, Jori [A] or Jori [B].

Applicants again respectfully disagree with the Examiner's characterization of portions of applicants' description as "prior art". Applicants have listed examples of biomolecules; applicants have not cited prior art.

It is the Examiner's position that it would be obvious to substitute the somatostatin and somatostatin receptor for the equivalent ligand receptor component in the photosensitive agent-targeting ligand conjugates of Pelegrin and Jori which uses the photosensitive agent, 8-azide ethidium, of Cryopharm. Applicants respectfully disagree.

Applicants respectfully assert that a prima facie case of obviousness has not been made. There is no suggestion, motivation, or teaching in Cryopharm to be combined with somatostatin receptor binding molecules, to achieve applicants' claimed azide bioconjugate. Applicants also reassert their disagreement with the characterization of "admitted prior art", and assert that the use of a somatostatin-binding compound with the claimed formula is inventive.

Furthermore Cryopharm teaches the use of photosensitizers, such as 8-azido ethidium, which bind the DNA and RNA of viruses and bacteria either by intercalation and/or electrostatic interactions, to decontaminate blood components. The Pelegrin and Jori references use photosensitizers for Type II photodynamic therapy. For the above reasons, applicants assert that the claims are not obvious over Cryoform combined with Pelegrin, Jori and the prior art.

Thus, for at least the above reasons, applicants assert that the claims are not obvious over Cryopharm combined with Pelegrin, Jori, and the prior art.

CONCLUSION

For the foregoing reasons, applicants' invention is believed to be patentable and an early Notice of Allowance is respectfully requested.

Applicants believe that no fees are due, but authorize the Examiner to charge any fees or credit any overpayment to Deposit Account Number 23-3000. The Examiner is invited to telephone the undersigned attorney if there are any questions.

Respectfully submitted,

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